



## Multiple Marker Screening

- **WHAT IS A MATERNAL SERUM MULTIPLE MARKER SCREENING TEST?**

This is a blood test for a pregnant woman. A **screening** test helps to identify which pregnancies may benefit from additional testing. A normal screening test means the chance of certain birth defects being present is greatly reduced. It is called a **multiple marker test** because from one blood sample, three different chemicals are measured (AFP, estriol, HCG)

- **HOW DOES THE TEST WORK?**

Certain chemicals or "markers" are measured in the blood of a pregnant woman. Either too much or too little of these markers suggest the possibility of birth defects. This is called a **positive screen**.

- **WHAT CAUSES A POSITIVE SCREEN?**

There can be many reasons for a positive result. It is important to remember that **most** pregnancies with a positive result are normal. Further testing may show that the woman's due date should be changed. It can mean a woman is carrying twins. It can also mean that a pregnancy is at higher risk for problems such as premature birth or miscarriage. Rarely, it indicates that a birth defect is present.

- **WHAT TYPES OF BIRTH DEFECTS CAN BE FOUND WITH A POSITIVE TEST?**

- The AFP marker screens for birth defects such as spina bifida (open spine). All three markers are helpful to screen for Down syndrome.
- Neural tube defects such as spina bifida are birth defects that occur

when the brain or spine do not form as they should. One to two of every thousand pregnancies has a neural tube defect.

- Down syndrome is characterized by poor growth, lack of muscle tone and moderate to severe mental retardation. Down syndrome occurs once in every 800 births, but the chance increases as the mother's age increases.
- For both neural tube defects and Down syndrome there is usually no prior history in the family.

- **WHAT IS RECOMMENDED IF A TEST IS POSITIVE?**

Further studies may show why the test was positive. With ultrasound, it is possible to identify some reasons for a positive screen. Some women will also be offered amniocentesis. With amniocentesis, a small sample of the fluid surrounding the fetus (unborn baby) can be studied for certain birth defects.

- **DOES A NORMAL SCREENING TEST MEAN A BABY DOES NOT HAVE ANY BIRTH DEFECTS?**

No. Only certain problems will be detected with a multiple marker screen. It does not even detect every case of Down syndrome or spina bifida. We estimate that it will detect 85% of neural tube defects and 60% of Down syndrome pregnancies.

- **WHAT HAPPENS IF THE TESTS SHOW THAT THE FETUS HAS A BIRTH DEFECT?**

If a birth defect is detected, the woman will be given as much information as possible about the condition which was found, before making a decision. Several options may be available. If she decides to continue the pregnancy, the doctor can arrange for the special care that will be needed at the baby's birth. If she decides that she cannot continue the pregnancy, her doctor can also help with this choice. Counseling and support groups are available to assist in whatever decision is made.

- **WHEN SHOULD THE SCREENING TEST BE DONE?**

The multiple marker screen is a blood test which is taken at 15-20 weeks or pregnancy. The best time is between 16 and 18 weeks. If you would like more

information, talk with your doctor or health care provider.

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